

JIN, et al., 10/759,234
15 August 2008 Amendment
Responsive to 15 February 2008 Office Action

1213.43404X00 / P-1263-US / 310300278US1
Page 10

REMARKS

This paper is responsive to any paper(s) indicated above, and is responsive in any other manner indicated below.

EXAMINER INTERVIEW ACKNOWLEDGED AND STATEMENT OF SUBSTANCE

This paper is (at least partially) responsive to the examiner interview conducted 15 August 2008, by and between assigned Examiner Javid A. Amini and attorney Paul J. Skwierawski, in the present application. The foregoing amendments include amendments discussed during, or resultant from, the examiner interview, and the following includes a reiteration of discussions/arguments had during the examiner interview.

PENDING CLAIMS

Claims 1-20 were pending, under consideration and subjected to examination in the Office Action. Appropriate claims have been amended, canceled and/or added (without prejudice or disclaimer) in order to adjust a clarity and/or focus of Applicant's claimed invention. That is, such changes are unrelated to any prior art or scope adjustment and are simply refocused claims in which Applicant is present interested. At entry of this paper, Claims 1-20 will be pending for further consideration and examination in the application.

JIN, et al., 10/759,234
15 August 2008 Amendment
Responsive to 15 February 2008 Office Action

1213.43404X00 / P-1263-US / 310300278US1
Page 11

REJECTION UNDER '112, 2ND PAR. OBVIATED VIA CLAIM AMENDMENT

Claims 12-18 have been rejected under 35 USC '112, second paragraph, apparently because such claims were allegedly not written in an acceptable Beauregard format and because of improper antecedent basis. Applicant respectfully submits that appropriate ones of the rejected claims have been rewritten in another manner believed to be a proper Beauregard format, and proper antecedent. A storage medium is disclosed within Applicant's specification, for example, in paragraphs [0033] and [0044]. As the foregoing is believed to have addressed all '112 second paragraph concerns, reconsideration and withdrawal of the '112 second paragraph rejection are respectfully requested.

REJECTION UNDER 35 USC '103

All 35 USC '103 rejections are respectfully traversed. However, such rejections have been rendered obsolete by the present clarifying amendments to Applicant's claims, and accordingly, traversal arguments are not appropriate at this time. However, Applicant respectfully submits the following to preclude renewal of any such rejections against Applicant's clarified claims.

All descriptions of Applicant's disclosed and claimed invention, and all descriptions and rebuttal arguments regarding the applied prior art, as previously submitted by Applicant in any form, are repeated and incorporated hereat by reference. Further, all Office Action statements regarding the prior art rejections are respectfully traversed. As additional arguments, Applicant respectfully submits the following comments.

JIN, et al., 10/759,234
15 August 2008 Amendment
Responsive to 15 February 2008 Office Action

1213.43404X00 / P-1263-US / 310300278US1
Page 12

Regarding differences between this invention and Suyoung, Applicant's invention relates to extracting a polygon shape of a building from only a single optical image. The single optical image can be obtained, for example, from a satellite image under contract to a satellite image supplier. The outstanding effect of Applicant's invention is that a map can be generated at low cost because all it needs is the one optical image.

Suyoung relates to generating a map by integrating an LIDAR image AND a stereo image obtained based on aerial photograph. The LIDAR image is an image obtained based on laser-measured distance data, while the above-mentioned stereo image is integrated multiple aerial images. The use of two types of images is supported by the description of "two sensors" in the Abstract of Suyoung.

The idea here is that an LIDAR image is required in addition to an optical image to generate a map. As a result of incorporating LIDAR, Suyoung's arrangement costs more to generate a map than Applicant's invention, because two types of high-cost images are required.

In Suyoung, the two types of images compensate for drawbacks of each other.

From the above, it is respectfully submitted that Suyoung largely differs in the use of two different types of resources, from Applicant's invention which utilizes a single optical 2D image exclusively.

Next, Marc describes an arrangement utilizing stereo (i.e., two) images. However, extracting a building region within an image in consideration of recognizing a shape of a building is not disclosed in Marc. In other words, disclosed in Marc is

JIN, et al., 10/759,234
15 August 2008 Amendment
Responsive to 15 February 2008 Office Action

1213.43404X00 / P-1263-US / 310300278US1
Page 13

the feature that points are extracted from two pairs of stereo images, and are associated in consideration of discriminating a color of the pixels around the points.

Noronha may extract some features from one view, but Noronha still utilizes multiple ariel images in extracting other features in the modeling of buildings.

That is, Noronha utilizes two images in its modeling of buildings, but may utilize only one image for a smaller feature which appears only in that one image.

In the cited documents Suyoung, Marc and Noronha, there are descriptions of extracting a building region using information on heights and depths obtained from multiple images (stereo images) and LIDAR images. However, there is no description of using only a single optical 2D color image to extract a building region. In addition, in the cited documents, the information on the heights and the depths is the key information to extract the building region. Thus, a method or a technique for extracting a building region using only the single optical 2D color image is not described. Accordingly, combining the references would not lead to extracting a building region using only the single optical 2D color image. Consequently, it is respectfully submitted that a necessity/feasibility of map generation using one mapping resource is not obvious.

As an advantage, Applicant's invention enables one to extract a building region using only the single optical 2D color image, without using the information on heights and depths. Therefore, Applicant's invention makes it possible to extract a building region using an image of an optical high resolution satellite image or a single aerial photograph for business use.

Regarding other aspects of Applicant's invention and Suyoung, in Applicant's invention, a user appoints at least one position in a building existing within a single

JIN, et al., 10/759,234
15 August 2008 Amendment
Responsive to 15 February 2008 Office Action

1213.43404X00 / P-1263-US / 310300278US1
Page 14

optical image such as a satellite image or an aerial photograph. Meanwhile, in Suyoung, contour lines are derived from a LIDAR image which is an image obtained based on laser-measured distance data in order to detect shapes of buildings. Then, building hypotheses are generated by analyzing the contour lines. (However, accurate boundary contours often cannot be obtained.)

In Applicant's invention, a building region is extracted based on a result of discriminating a color around the appointed position, and then a building region extraction process is repeated to expand the region. In this way, the building boundary is extracted.

Further in Applicant's invention, the integration pattern predetermined based on building structural knowledge and the lines of the extracted building region are compared. When the lines of the extracted building region correspond to the predetermined integration pattern, a structural analysis and integration unit integrates the building region so as to include the lines.

Meanwhile, in Suyoung, the building hypotheses obtained from the LIDAR data are verified using the building boundary obtained from the aerial photograph for building recognition.

To summarize, both the Marc and Noronha inventions require multiple optical color images (aerial photographs). However, Applicant's invention requires only a single image (one image). Suyoung additionally requires the LIDAR data.

As a result of all of the foregoing, it is respectfully submitted that the applied art (taken alone and in the Office Action combinations) would not support a '103 obviousness-type rejection of Applicant's claims. Accordingly, reconsideration and

JIN, et al., 10/759,234
15 August 2008 Amendment
Responsive to 15 February 2008 Office Action

1213.43404X00 / P-1263-US / 310300278US1
Page 15

withdrawal of such '103 rejection, and express written allowance of all of the '103 rejected claims, are respectfully requested.

EXAMINER INVITED TO TELEPHONE

The Examiner is herein invited to telephone the undersigned attorneys at the local Washington, D.C. area telephone number of 703/312-6600 for discussing any Examiner's Amendments or other suggested actions for accelerating prosecution and moving the present application to allowance.

RESERVATION OF RIGHTS

It is respectfully submitted that any and all claim amendments and/or cancellations submitted within this paper and throughout prosecution of the present application are without prejudice or disclaimer. That is, any above statements, or any present amendment or cancellation of claims (all made without prejudice or disclaimer), should not be taken as an indication or admission that any objection/rejection was valid, or as a disclaimer of any scope or subject matter. Applicant respectfully reserves all rights to file subsequent related application(s) (including reissue applications) directed to any/all previously claimed limitations/features which have been subsequently amended or cancelled, or to any/all limitations/features not yet claimed, i.e., Applicant continues (indefinitely) to maintain no intention or desire to dedicate or surrender any limitations/features of subject matter of the present application to the public.

JIN, et al., 10/759,234
15 August 2008 Amendment
Responsive to 15 February 2008 Office Action

1213.43404X00 / P-1263-US / 310300278US1
Page 16

CONCLUSION


In view of the foregoing amendments and remarks, Applicant respectfully submits that the claims listed above as presently being under consideration in the application are now in condition for allowance.

To the extent necessary, Applicant petitions for an extension of time under 37 CFR 1.136. Authorization is herein given to charge any shortage in the fees, including extension of time fees and excess claim fees, to Deposit Account No. 01-2135 (Case No. 1213.43404X00) and please credit any excess fees to such deposit account.

Based upon all of the foregoing, allowance of all presently-pending claims is respectfully requested.

Respectfully submitted,

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